standing. In collaboration with some of my pupils and other clinical men we have tested the protein in various streptococcus infections with good clinical results. More recently we have been extending the work to influenza, tuberculosis, pneumonia and all kinds of infections.

We do not yet know the exact compounds contained in the mixture of proteins which we have been using. There seems to be reason to believe that it is a rich mixture of many different individual proteins. We are making an effort to identify them as far as possible. It may be that the complexity of the mixture is the source of its power in so many different infections. We are also pursuing the inquiry as to the various possibilities of preparing other proteins from blood producing tissues and testing out on those infections which do not yield to the present protein.

I hope soon to publish a more complete account of the chemical work concerned with this problem and also of the clinical results obtained.

CLYDE BROOKS
THE OHIO STATE UNIVERSITY

A BIO-CHEMICAL THEORY OF THE ORIGIN OF INDIANAITE

INDIANAITE is the name applied to a variety of halloysite (Dana) by E. T. Cox.[1] It is a white mineral of porcelain-like appearance occurring in Indiana in beds varying in thickness from a few inches to eleven feet in rocks of the Mississippian and Pennsylvanian groups. Leo Lesquereux suggested that it had been formed by the burning out of a bed of coal.[2] Cox[3] advanced the theory that the Indianaite had been formed by the weathering and dissolution of a bed of limestone.

From studies in the field and laboratory the writer is convinced that the origin is due to bio-chemical action. Briefly stated the process is as follows: Shales containing pyrite are weathered and sulphuric acid is produced. The sulphuric acid attacks the clay forming aluminum sulphate. Sulphur bacteria absorb the soluble alum and rob it of its sulphur, secreting the aluminium in the form of a hydrated aluminium silicate which by a partial dehydration is rendered insoluble thus forming Indianaite. The writer has isolated the bacteria and finds them to be similar in appearance to *Beggiatoa alba*. That these microorganisms are influential in the origin of the Indianaite the writer believes he has demonstrated by experiments in the laboratory.

WILLIAM N. LOGAN
INDIANA UNIVERSITY

[1] See 6th Ann. Rept. Geol. Sur. Indiana, p. 15.

[2] See Rept. of a Geol. Reconn. of Indiana, 1862, p. 320.

[3] *Loc. cit.*

THE AMERICAN PHYSICAL SOCIETY

THE ninety-fifth meeting (the twentieth annual meeting) of the American Physical Society was held at Johns Hopkins University, in Baltimore, Maryland, on December 27 and 28, 1918, in affiliation with Section B—Physics, of the American Association for the Advancement of Science. Professor Bumstead is now serving as scientific attaché to the American Embassy in London and his resignation as president of the society was accepted by the council on November 30, 1918. The vice-president, J. S. Ames, thus became acting-president, and he presided at the several sessions of the society and the council. The maximum attendance at the technical meetings was about one hundred, while eighty-eight members and visitors were present at the time of the business session.

On the afternoon of December 27 there were two sessions under the auspices of Section B, the presiding officer being the vice-president and chairman of the section, Major G. F. Hull. At 2 o'clock, P.M., the retiring vice-president and chairman, W. J. Humphreys, gave an address on "Some recent contributions to the physics of the air." At five o'clock, P.M., Dr. George E. Hale gave an address before the entire association on "The National Research Council."

The annual business meeting was held at eleven o'clock, A.M., on December 28, 1918. The revised form of the constitution and by-laws was unanimously adopted by letter ballot. The amendments do not alter the intent or purpose of the constitution in the old form, except in one respect: the managing editor is made a member, *ex-officio*, of the council. The amended constitution will be published in the next printed list of members.

The following officers were elected for the year 1919:

President—J. S. Ames.

Vice-president—W. C. Sabine.

Secretary—D. C. Miller.

Treasurer—G. B. Pegram.

Members of the Council (four year term)—G. K. Burgess, J. C. McLennon.

Member of the Council (one year, unexpired term)—Max Mason.

Members of the Board of Editors of the Physical Review—Henry Crew, L. V. King, H. S. Uhler.

Colonel Millikan explained the purposes of the Smith-Howard Bill now before Congress, authorizing federal cooperation with the states for the promotion of engineering and industrial research. After general discussion it was unanimously voted that the American Physical Society favors federal aid and cooperation with the several states in support of research in science and engineering and in industrial research. The society favors the creation of boards of eminent scientists and engineers within each state for the administration of the funds appropriated for all research within the state.

At the morning sessions of December 27 and 28, 1918, thirty papers were presented as follows, four being read by title:

The unique system of units: W. W. Strong.

A simple stretched wire dilatometer: Arthur W. Gray.

Monochromatic and neutral tint screens in optical pyrometry: W. E. Forsythe.

The temperature, pressure, and density of the atmosphere in the region of northern France: W. J. Humphreys.

Refinements in spherometry: G. W. Moffitt.

A new type of hot wire anemometer: T. S. Taylor.

The linear thermal expansion of glass at high temperatures: C. G. Peters.

Some characteristics of glasses in the annealing range: A. Q. Tool and J. Valasek.

Striæ in optical glass: L. E. Dodd and A. R. Payne.

Preliminary determination of the thermal expansion of molybdenum: Lloyd W. Schadd and Peter Hidnert.

On the characteristics of electrically operated tuning forks: H. M. Dadourian. (Read by title.)

Ionization and resonance potentials for electrons in vapors of arsenic, rubidium and cæsium: Paul D. Foote, O. Rognley and F. L. Mohler.

Absorption coefficient of the penetrating radiation: Oliver H. Gish.

Photoelectric sensitivity vs. current rectification in molybdenite: W. W. Coblentz and Louise S. McDowell.

A device for the automatic registration of the α- and β-particles and γ-ray pulses: Alois F. Kovarik.

Note on the distribution of energy in the visible spectrum of a cylindrical acetylene flame: Edward P. Hyde, W. E. Forsythe and F. E. Cady.

Preliminary note on the luminescence of the rare earths: E. L. Nichols, D. T. Wilber and F. G. Wick.

On the critical absorption frequencies of chemical elements of high atomic numbers: William Duane and Takio Shimizu.

Some interesting results of eclipse magnetic observations: L. A. Bauer.

The minimum temperature at the base of the stratosphere: W. J. Humphreys. (Read by title.)

Why clouds never form in the stratosphere: W. J. Humphreys. (Read by title.)

Speeds in signaling by the use of light: W. E. Forsythe.

Thermal conductivity of various materials: T. S. Taylor.

Further observations on the production of metallic spectra by cathode luminescence: Edna Carter and Arthur S. King.

Effect of crystal structure upon photoelectric sensitivity: W. W. Coblentz. (Read by title.)

A mechanically blown wind instrument: A. G. Webster.

The dynamics of the rifle fired at the shoulder: A. G. Webster.

Interior ballistics, by a new gun indicator: A. G. Webster.

Residual gases in highly exhausted glass bulbs: J. F. Shrader.

Silvering quartz fibers by cathodic sputtering: J. F. Shrader.

Dayton C. Miller,
Secretary

SCIENCE

A Weekly Journal devoted to the Advancement of Science, publishing the official notices and proceedings of the American Association for the Advancement of Science

Published every Friday by

THE SCIENCE PRESS

LANCASTER, PA. GARRISON, N. Y.
NEW YORK, N. Y.

Entered in the post-office at Lancaster, Pa., as second class matter